

Amendment to the Claims

The current listing of the claims replaces all previous amendments and listings of the claims.

1. (Currently Amended) An apparatus for forming a coating film ~~on a substrate by applying a coating liquid to the substrate, which comprises comprising:~~

holding means for holding ~~the~~ a substrate horizontally;

a rotation mechanism ~~for rotating~~ configured to rotate said holding means such that the substrate held by said holding means is allowed to rotate in a horizontal plane;

a nozzle ~~for dropping~~ configured to drop a coating liquid on ~~the~~ a surface of the substrate; and

gyrating force generation means for giving a gyrating force to the coating liquid dropped from said nozzle,

wherein the nozzle is configured to drop the coating liquid in a rod-like state with a gyration given by the gyrating force generating means.

2. (Currently Amended) An apparatus for forming a coating film ~~on a substrate by applying a coating liquid to the substrate, which comprises comprising:~~

holding means for holding ~~the~~ a substrate horizontally;

a rotation mechanism ~~for rotating~~ configured to rotate said holding means such that the substrate held by said holding means is allowed to rotate in a horizontal plane; and

a nozzle ~~for dropping~~ configured to drop a coating liquid through a hole on ~~the~~ a surface of the substrate, and

wherein a spiral groove is formed on an inner wall of the hole of said nozzle,

wherein the nozzle is configured to drop the coating liquid in a rod-like state with a gyration in accordance with the spiral groove.

3. (Currently Amended) The apparatus according to claim 2, wherein further comprising:

a center rod is provided at the a center of the hole such that and configured to flow the coating liquid ~~flows easily~~ along the inner wall of the hole.

4. (Currently Amended) The apparatus according to claim 2, wherein the spiral groove is configured such that the coating liquid and a dilution liquid for diluting configured to dilute the coating liquid are supplied separately in said spiral groove, they are mixed during passing said spiral groove, and the mixed liquid is given a gyrating force and is dropped from said nozzle.

5. (Original) The apparatus according to claim 2, wherein the hole is tapered toward an exit from which the coating liquid is dropped.

6. (Currently Amended) An apparatus for forming a coating film on a substrate by applying a coating liquid to the substrate, ~~which comprises~~ comprising:

holding means for holding the substrate horizontally;

a rotation mechanism for rotating said holding means such that the substrate held by said holding means is allowed to rotate in a horizontal plane;

a nozzle ~~for dropping~~ configured to drop the coating liquid through a hole on the a surface of the substrate on said holding means;

a center rod provided at a center of the hole such that the coating liquid flows along an inner wall of the hole; and

~~a plurality of fins provided in the hole of said nozzle so as disposed on the center rod and configured~~ to flow the coating liquid in a spiral manner.

7. (Currently Amended) The apparatus according to claim 6, wherein the hole is configured such that the coating liquid and a dilution liquid for diluting configured to dilute the coating liquid are supplied separately in the hole, they are mixed during passing the hole, and the mixed liquid is given a gyrating force by said fins and is dropped from said nozzle.

8. (Original) The apparatus according to claim 6, wherein the hole is tapered toward an exit from which the coating liquid is dropped.

9-12 (Canceled)

13. (New) An apparatus for forming a coating film on a substrate by applying a coating liquid to the substrate, comprising:
holding means for holding the substrate horizontally;
a rotation mechanism configured to rotate the holding means such that the substrate held by the holding means is allowed to rotate in a horizontal plane;
a nozzle configured to drop the coating liquid on a surface of the substrate;
gyrating force generation means for giving a gyrating force to the coating liquid dropped from the nozzle; and
a center rod provided at a center of the hole of the nozzle and configured to flow the coating liquid along an inner wall of the nozzle.

14. (New) An apparatus for forming a coating film on a substrate by applying a coating liquid to the substrate, comprising:

holding means for holding the substrate horizontally;

a rotation mechanism configured to rotate the holding means such that the substrate held by the holding means is allowed to rotate in a horizontal plane; and
a nozzle configured to drop the coating liquid through a hole on a surface of the substrate,

wherein a spiral groove is formed on an inner wall of the hole of the nozzle, and
wherein a center rod is provided at a center of the hole such that the coating liquid flows easily along the inner wall of the hole.

15. (New) An apparatus for forming a coating film on a substrate by applying a coating liquid to the substrate, comprising:

holding means for holding the substrate horizontally;
a rotation mechanism configured to rotate the holding means such that the substrate held by the holding means is allowed to rotate in a horizontal plane; and
a nozzle configured to drop the coating liquid through a hole on a surface of the substrate,

wherein a spiral groove is formed on an inner wall of the hole of the nozzle, and
wherein the coating liquid and a dilution liquid configured to dilute the coating liquid are supplied separately in the spiral groove, the coating and dilution liquid are mixed during passing the spiral groove, and the mixed liquid is given a gyrating force and is dropped from the nozzle.